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15 January 1960

TO: ALL CONCERNED

SUBJ: TITANIUM HANDLING

This document contains security information. DO NOT REMOVE FROM BLDG. 82.

1. This program involves the use of materials which are new to Lockheed and for which fabrication methods and processes are still in the test and development stages. You will find it necessary to use techniques of forming, machining, processing and heat treating that are entirely new and in most cases more complicated or difficult than any used in the past. Examples of areas requiring special precautions are:

   A. No material will be released for production of parts until extensive receiving inspection tests are run.

   B. Parts fabrication will require very careful layouts to ensure maximum use of material from each sheet or bar.

   C. Many parts forming operations will require hot forming.

   D. Extreme care must be used to ensure the proper sequencing of fab, degrease, age, pickle, rinse, Markal coat, anneal, rinse, re-hit, age, etc. operations.

   E. Skin scratches can be very critical. More so than on any airplane we have built in the past.

2. The cost of Titanium is many times that of standard materials such as aluminum or stainless steel. FOR THIS REASON WE MUST KEEP WASTE, SCRAP AND OVERRUNS TO AN ABSOLUTE MINIMUM. This will be doubly difficult in view of the new methods we must use in working with this material.

3. Even as scrap, Titanium is worth more per pound than new aluminum. All scrap, including chips must be kept free of contamination and segregated by type of material.

4. No Titanium scrap is to enter LAC salvage from this project. THIS IS IMPORTANT BOTH FROM A SECURITY STANDPOINT AND BECAUSE OF THE LOSS OF A SUBSTANTIAL AMOUNT OF CREDIT TO OUR CUSTOMER FROM THE SALE OF THIS SCRAP. Special containers, clearly identified and color coded have been set up for Titanium scrap. USE THEM!

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5. The following color code has been established for identifying some of the materials we will be using:

B120VCA (Annealed Condition)	- White Stripe
B120VCA (Aged)	- Broken White Line Added
A-110-AT	- Black Stripe
A286	- Red Stripe
Waspaloy	- Purple Stripe

Note: These are not industry standard colors. They have been selected especially for this project for security reasons.

6. Much of the MSP type item on this project are also manufactured from Titanium or similar costly alloys. This includes rivets, bolts and screws, nuts, washers and JO-Bolts. These also require special handling, care to prevent waste, and segregation of scrap or spoilage.

7. Under certain conditions Titanium is combustible. It presents a fire hazard during grinding or machine operations that produce fine turnings, chips or dust. Special extinguishers are provided in areas where these operations are performed. One of the best preventive measures against a Titanium fire is GOOD HOUSEKEEPING.

8. You have already been briefed on the security of this project. This is a reminder that the use of Titanium and other special materials is one of the critical security aspects of the project.

9. When in doubt about any aspect of working with Titanium or related alloys, security restrictions or safety, CONSULT YOUR SUPERVISOR.

Clarence L. Johnson
CLARENCE L. JOHNSON
Vice President
Advanced Development Projects

I have read the foregoing statements and discussed them with my supervisor. I understand the extreme importance of this program with regard to elimination of waste whenever possible, the proper handling of scrap materials and maintaining security relative to the materials in use.

_____ / _____ / _____

Employee's Signature Clock Number Date

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Supervisor's Signature

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